

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A diversity receiver for receiving a desired content carried by a radio signal on a radio channel, said diversity receiver comprising:

a first receiving branch having associated thereto a first antenna element for receiving a first signal;

at least a second receiving branch having associated thereto a second antenna element for receiving a second signal;

first means for obtaining, from the first signal on the first receiving branch and the second signal on the second receiving branch, a third signal representing an estimation of a spatial derivative of at least one receiving channel parameter;

second means for processing the third signal to obtain a fourth signal;

third means for processing the first signal, as received by the first receiving branch, to obtain a fifth signal; and

fourth means for combining the fourth signal and the fifth signal to obtain an output signal, said output signal corresponding to the desired content of the radio signal;—

wherein the third signal is used to cancel or at least reduce signal distortions that occur due to time-variations of the receiving channel.

and wherein the first antenna element and the second antenna element are closely spaced and arranged behind each other in a direction of motion of the diversity receiver.

2. (Canceled).

3. (Previously Presented) The diversity receiver according to claim 1, wherein the first means obtains the third signal as a difference between the first signal and the second signal.

4. (Previously Presented) The diversity receiver according to claim 1, wherein the third signal is interpreted as a temporal derivative of the at least one receiving channel parameter, at least when the diversity receiver is moved.

5. (Canceled).

6. (Previously Presented) The diversity receiver according to claim 1, wherein one or more of the first means, the second means, the third means, and the fourth means are fully or in part realized by hardware interacting with software or by discrete components.

7. (Currently Amended) The diversity receiver according to claim 1, wherein the second means perform one or more of the following functions: filtering, sampling, A/D-conversion, serial-to-parallel conversion, multiplying with a ramp function, ~~(Fast)~~

Fourier Transforming, multiplying with a crosstalk matrix, and signal weighting.

8. (Previously Presented) The diversity receiver according to claim 1, wherein the second means perform a signal weighting function comprising a multiplication with a weighting factor (\cdot ; d/v) controlled to minimize the signal distortions.

9. (Currently Amended) The diversity receiver according to claim 1, wherein the third means perform one or more of the following functions: filtering, sampling, A/D-conversion, serial-to-parallel conversion, and ~~(Fast)~~ Fourier Transforming.

10. (Original) The diversity receiver according to claim 1, wherein the at least one receiving channel parameter is a receiving channel transfer function.

11. (Previously Presented) The diversity receiver according to claim 1, wherein said diversity receiver further comprises switching means for switching from a signal on the first receiving branch to a corresponding signal on the second receiving branch thereby creating a virtual third antenna element.

12. (Previously Presented) The diversity receiver according to claim 1, wherein the first antenna element and the second antenna

element are arranged in parallel but extend in different directions.

13. (Currently Amended) The diversity receiver according to claim 1, wherein the diversity receiver is adapted to be used in one or more of the following systems: Orthogonal Frequency Division Multiplexing ~~(OFDM)~~-systems, Digital Audio Broadcasting ~~(DAB)~~ systems, Digital Video Broadband ~~(DVB)~~-systems, for example, DVB-T systems, Digital Terrestrial Television Broadcasting ~~(DTTB)~~ systems, Code Division Multiple Access ~~(CDMA)~~-systems, for example, cellular CDMA systems, Universal Mobile Telecommunications Systems ~~(UMTS)~~, the Global System for Mobile communications ~~(GSM)~~, Digital Enhanced Cordless Telecommunication ~~(DECT)~~-systems, wireless local area network systems, for example, according to the standard 802.11a, 802.11g, or HIPERLAN II.

14. (Currently Amended) A method for canceling or at least reducing signal distortions of a desired content carried by a radio signal received by a moving diversity receiver, wherein the signal distortions occur due to time-variations of a receiving channel in a radio system, said method comprising the acts of:

receiving a first signal on a first receiving branch
having associated thereto a first antenna element;

receiving a second signal on a second receiving branch
having associated thereto a second antenna element;

obtaining, from the first signal and from the second signal, a third signal representing an estimation of a spatial derivative of at least one receiving channel parameter;

processing the third signal to obtain a fourth signal;

processing the first signal, as received, to obtain a fifth signal; and

combining the fourth signal and the fifth signal to obtain an output signal corresponding to the desired content of the radio signal,

wherein the first antenna element and the second antenna element are closely spaced in position and arranged behind each other in a direction of motion of the diversity receiver.

15. (Previously Presented) The method according to claim 14, wherein the act of estimating the spatial derivative comprises calculating a difference between the radio signal received at a first position of said two closely spaced positions and the radio signal received at a second position of said two closely spaced positions.

16. (Currently Amended) A computer readable medium embodying a computer program, comprising instructions for causing a processor, when loaded with said computer program, to cancel or at least reduce signal distortions of a desired content carried by a radio signal received by a moving diversity receiver, the instructions causing the processor to:

receive a first signal on a first receiving branch having associated thereto a first antenna element;

receive a second signal on a second receiving branch having associated thereto a second antenna element;

obtain, from the first signal and from the second signal, a third signal representing an estimation of a spatial derivative of at least one receiving channel parameter;

process the third signal to obtain a fourth signal;

process the first signal, as received, to obtain a fifth signal; and

combine the fourth signal and the fifth signal to obtain an output signal corresponding to the desired content of the radio signal,

wherein the first antenna element and the second antenna element are closely spaced in position and arranged behind each other in a direction of motion of the diversity receiver.

17. (Canceled).

18. (Currently Amended) A diversity receiver for receiving a desired content carried by a radio signal on a radio channel, said diversity receiver comprising:

a first antenna configured to receive a first signal on a receiving channel;

a second antenna configured to receive a second signal on the receiving channel;

a first combiner configured to form a third signal from the first signal and the second signal;

a first processing unit configured to process the third signal to obtain a fourth signal;

a second processing unit configured to process the first signal, as received, to obtain a fifth signal; and

a second combiner configured to combine the fourth signal and the fifth signal to obtain an output signal corresponding to the desired content of the radio signal;

wherein the third signal represents an estimation of a spatial derivative of at least one receiving channel parameter, ~~and~~
_____ wherein the third signal is used to reduce signal distortions that occur due to time-variations of the receiving channel,

and wherein the first antenna and the second antenna are closely spaced in position and arranged behind each other in a direction of motion of the diversity receiver.

19. (Previously Presented) The diversity receiver as claimed in claim 18, wherein the first combiner is configured to form the third signal from the first signal and a difference signal, the difference signal being a difference between the first signal and the second signal.

20. (Previously Presented) The diversity receiver as claimed in claim 19, wherein said diversity receiver further comprises a

weighting unit configured to multiply the difference signal with a factor that depends on at least one a speed of the diversity receiver and a distance between the first antenna and the second antenna.

21. (Previously Presented) The diversity receiver as claimed in claim 19, wherein said diversity receiver further comprises a decorrelator configured to decorrelate the difference signal and the third signal and compute a weighting factor for weighting the difference signal.

22. (Previously Presented) The diversity receiver as claimed in claim 19, wherein said diversity receiver further comprises a multiplier configured to multiply the difference signal with a linearly increasing ramp function.